BULLETIN
of the
Chicago Herpetological Society

Volume 48, Number 10
October 2013

BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
Volume 48, Number 10
October 2013

Additional Cases of Snakes Entrapped in Garden Netting: *Pantherophis vulpinus* and *Crotalus horridus* in Southeastern Minnesota . . . . . Philip A. Cochran 129

An Addition to Geckos of the Genus *Hemidactylus* Oken 1817 in Pakistan, with Notes on Morphology, Ecology and Distribution of Species . . . . . Muhammad Sharif Khan 130

Notes on the Herpetofauna of Western Mexico 11: A Range Extension for the Mexican Dusky Rattlesnake, *Crotalus triseriatus*, in Jalisco, Mexico . . . . . Daniel Cruz-Sáenz, Erika Sugey García Mata and David Lazcano 135

The Tympanum . . . . . Ray Pawley 136

Frog City: X. House Music . . . . . Ilene Sievert 137

Unofficial Minutes of the CHS Board Meeting, September 13, 2013 138

Advertisements 139

News and Announcements: 2014 CHS Herpetological Grants Program 140

Cover: Eastern box turtle, *Terrapene carolina carolina*, Johnson County, Illinois. Photograph by Stephen L. Barten, D.V.M.

STAFF

Editor: Michael A. Dloogatch—madadder0@aol.com
Advertising Manager: Ralph Shepstone

2012 CHS Board of Directors

Jason Hood, President
Cindy Steinle, Vice-President
Andy Malawy, Treasurer
Jenny Vollman, Recording Secretary
Stephanie Cappiello, Corresponding Secretary
Aaron LaForge, Publications Secretary
Mike Dloogatch, Membership Secretary
Jim Foster, Sergeant-at-arms
Josh Baity, Member-at-large
Dick Buchholz, Member-at-large
Nancy Kloskowski, Member-at-large
Linda Malawy, Member-at-large

The Chicago Herpetological Society is a nonprofit organization incorporated under the laws of the state of Illinois. Its purposes are education, conservation and the advancement of herpetology. Meetings are announced in this publication, and are normally held at 7:30 P.M., the last Wednesday of each month.

Membership in the CHS includes a subscription to the monthly *Bulletin*. Annual dues are: Individual Membership, $25.00; Family Membership, $28.00; Sustaining Membership, $50.00; Contributing Membership, $100.00; Institutional Membership, $38.00. Remittance must be made in U.S. funds. Subscribers outside the U.S. must add $12.00 for postage. Send membership dues or address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago, IL 60614.

Manuscripts published in the *Bulletin of the Chicago Herpetological Society* are not peer reviewed. Manuscripts should be submitted, if possible, on IBM PC-compatible or Macintosh format diskettes. Alternatively, manuscripts may be submitted in duplicate, typewritten and double spaced. Manuscripts and letters concerning editorial business should be sent to: Chicago Herpetological Society, Publications Secretary, 2430 N. Cannon Drive, Chicago, IL 60614. **Back issues** are limited but are available from the Publications Secretary for $2.50 per issue postpaid.
Visit the CHS home page at <http://www.Chicagoherp.org>.

The *Bulletin of the Chicago Herpetological Society* (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

Copyright © 2013

Bull. Chicago Herp. Soc. 48(10):129, 2013

Additional Cases of Snakes Entrapped in Garden Netting: *Pantherophis vulpinus* and *Crotalus horridus* in Southeastern Minnesota

Philip A. Cochran
Biology Department, Saint Mary's University
700 Terrace Heights
Winona, MN 55987

A recent article in this journal has detailed the risk to snakes posed by plastic mesh garden netting of the sort used to protect plants from deer or other pests (Barker, 2013). The cases described by Barker (2013) involved snakes living in Texas. During the course of my service as a rattlesnake responder in Winona County, Minnesota, I have encountered snakes of two additional species that were severely entangled in garden netting.

1. Western fox snake: At 09:15 on 11 May 2012, I responded to a call from a landowner in southern Winona County about a dead "timber rattlesnake" with its head caught in some garden netting. The snake proved to be a large western fox snake (total length: 1387 mm). I did not record the mesh size or whether the netting was anchored as described by Barker (2013), but it was difficult to extract the snake from the netting.

2. Timber rattlesnake: At 15:00 on 12 September 2013, I responded to a call from a Winona landowner about a timber rattlesnake entangled in garden mesh netting that he said was used as a barrier to deer. The netting was made of fine black plastic with rectangular mesh openings measuring $^5/_8 \times {}^3/_4$ inch (17 × 19 mm) but a stretch mesh of 1.31 inch (33 mm). Note that this was smaller than the 1-inch (25.4-mm) square mesh described by Barker (2013). The netting was anchored at its lower edge. The rattlesnake (total length: 789 mm, mass: 0.3 kg) was first noticed by the landowner at approximately 12:00. By the time I was called, the anterior third of its body was almost completely immobilized, its head and mouth were severely distorted, and its body was constricted in several places. The snake was still able to rattle while I cut the tangle of mesh that surrounded it from the netting around it. I returned with the snake to my home where I carefully removed the netting from around its body. It was necessary to use a small scissors to cut individual strands tightly pressed against its head and body. Once the netting was removed, the snake recovered its normal shape. Many scales appeared to be loosened and lifted away from the body surface (Figure 1), but there were few breaks in the skin. These were treated with an antibiotic ointment before the snake was released.

I am aware of another timber rattlesnake from Winona that was found entangled in deer netting. The snake (total length: 1094 mm, mass: 1.0 kg) was given to me for processing by the conservation officer who removed it from the fence on the morning of 11 August 2008, but because he mentioned the fencing only briefly in passing and I noticed no obvious marks on the snake, I did not have the impression that it was a severe case, and I did not collect descriptive information about the netting.

The observations reported herein add weight to Barker's (2013) report of the risks of garden mesh netting for snakes. A possible substitute that may work for some applications may be hardware cloth. With its smaller mesh and rigid structure, it may be less likely to entangle snakes. Indeed, Brown (1993) reported its successful use to exclude timber rattlesnakes from the vicinity of tourist cabins in New York. Drawbacks include its greater cost in comparison to plastic mesh and the greater investment in labor to install it, but it may also be much more durable than plastic mesh. Or, there is another way:

> And it was a sad day, a few summers ago, when I found a large garter snake choked in a mesh fence I had put up to keep the deer out of the perennial garden. It was too late, but as I cut it out of the mesh I kept saying, "I'm sorry, I'm so sorry." I carried the lifeless body by the tail and left it down in the field for the crows and the turkey buzzards. I dismantled the fence, let the deer eat what they liked down to the ground, and then filled in the spaces with the things they didn't like. Godwin (2003)

Acknowledgments

I would like to thank the landowners who take advantage of the rattlesnake responder program. My neighbor Chuck Kernler provided assistance in the delicate process of removing netting from around the timber rattlesnake. My activity as a rattlesnake responder is authorized by a permit from the Minnesota Department of Natural Resources.

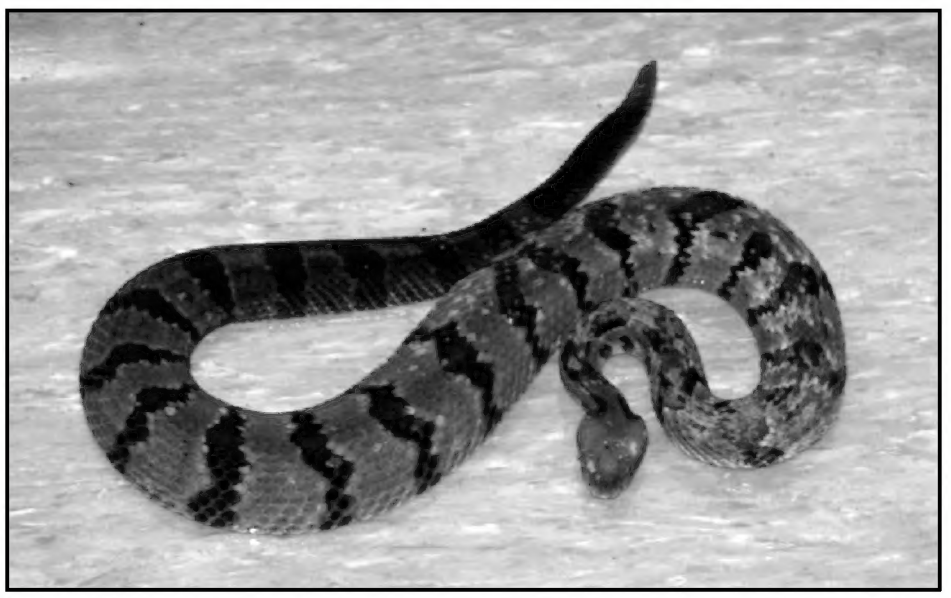


Figure 1. A timber rattlesnake after removal from plastic netting. The light areas on the anterior surface of the body resulted from scales lifted away from the body surface by embedded strands of netting.

Literature Cited

Barker, D. G. 2013. A danger to snakes in the garden. Bull. Chicago Herp. Soc. 48(8):101.

Brown, W.S. 1993. Biology, status, and management of the timber rattlesnake (*Crotalus horridus*): A guide for conservation. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 22.

Godwin, G. 2003. My snakes. Pp. 122-127. *In*: W. Lewis, editor, Snakes: An anthology of serpent tales. New York:M. Evans and Co.

Bull. Chicago Herp. Soc. 48(10):130-134, 2013

An Addition to Geckos of the Genus *Hemidactylus* Oken 1817 in Pakistan, with Notes on Morphology, Ecology and Distribution of Species

Muhammad Sharif Khan
Herpetological Laboratory
306 N. Morton Ave.
Morton, PA 19070
typhlops99@outlook.com

Introduction

The genus *Hemidactylus* is one of the most speciose, with over 122 species of worldwide circumtropic distribution (Uetz et al., 2013). Despite morphologically fairly uniform appearing taxa, recent mitochondrial DNA studies (Bauer et al., 2006; Carranza and Arnold, 2006, 2012) have demonstrated that they are genetically quite divergent, thus adding several new species. Khan (2006) listed seven species of the genus *Hemidactylus* in Pakistan: *H. brookii*, *H. flaviviridis*, *H. frenatus*, *H. leschenaultii*, *H. persicus*, *H. triedrus* and *H. turcicus*. However, recent DNA studies validated *H. robustus* Heyden 1927—long confused with *H. brookii* and *H. triedrus* in Iran and Pakistan—as a distinct species, thus adding an eighth *Hemidactylus* to the fauna of Pakistan (Bauer et al., 2006)).

Key to the Pakistani species of the genus *Hemidactylus*

1a. Dorsal tubercles round, few or absent; lamellae under fourth toe 14–15; belly yellowish----------*H. flaviviridis*
1b. Dorsal tubercles round, many, scattered; lamellae under fourth toe 14–15; belly dirty white----------*H. leschenaultii*

2a. Dorsal tubercles, round, subtrihedral, keeled, in regular rows---------- 3
2b. Dorsal tubercles absent or few; lamellae under fourth toe 9–11----------*H. frenatus*

3a. Dorsal tubercles in 14–19 rows; lamellae under fourth toe 6–10---------- *H. brookii*
3b. Dorsal tubercles in 13–16 rows---------- 4

4a. Lamellae under fourth toe 10–15; pre-cloacal pores 6–9 ----------*H. persicus*
4b. Number of lamellae under fourth toe less than above--------5

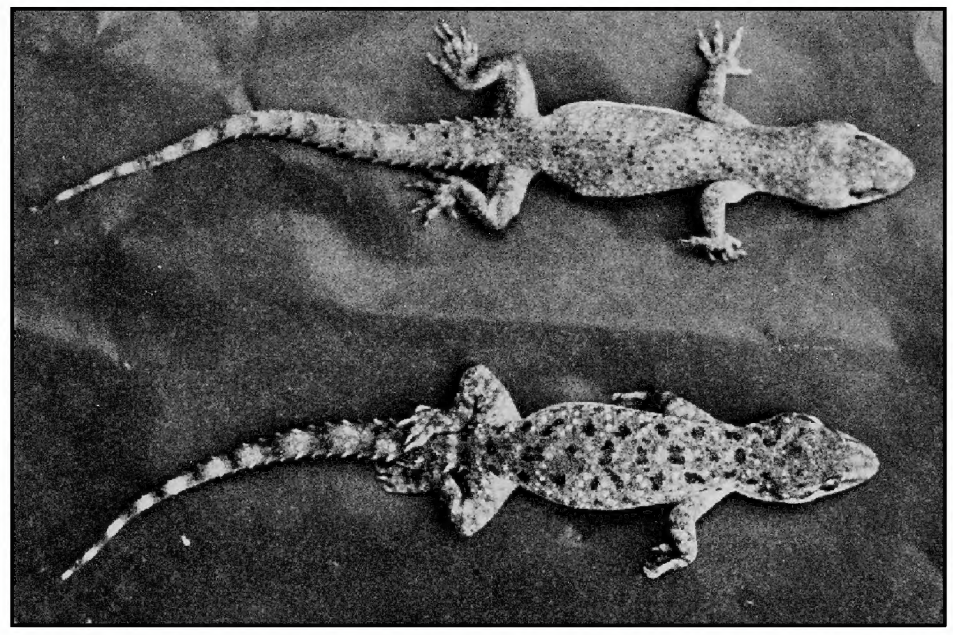
5a. Pre-cloacal femoral pores 24–30; lamellae under fourth toe 9–10---------- *H. triedrus*
5b. Number of pre-cloacal femoral pores much less----------6

6a. First 3–4 tail segments tuberculated; lamellae under fourth toe 8–11----------*H. robustus*
6b. Tail tuberculated throughout; 9–12 lamellae under fourth toe----------*H. turcicus*

Short descriptions of species

(For detailed scale counts see Table 1)

Hemidactylus brookii Gray, 1845—Spotted barn gecko

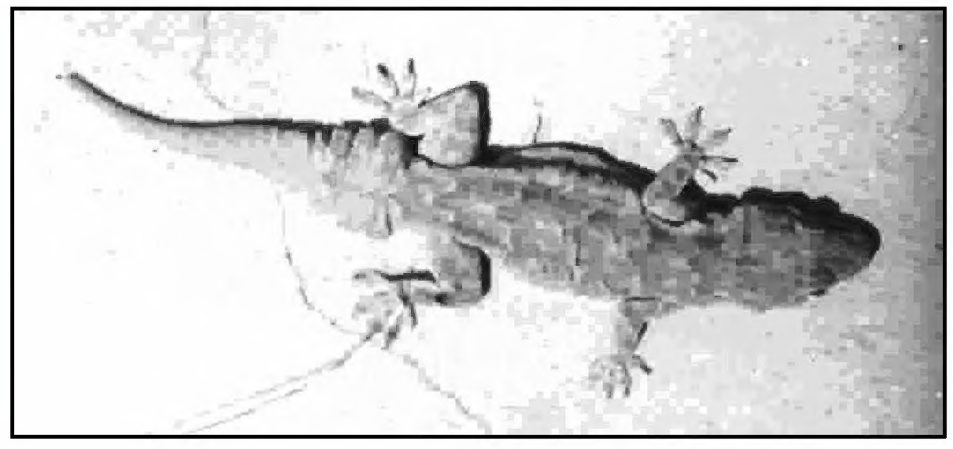


Type locality: Borneo, southeastern Asia.

Color: Metachromatic, changing between dark brown and light gray, with dark spots, and a stripe from eye to the temple.

Range: Common in the Indo-Pakistan subcontinent, Sri Lanka and most of Southeast Asia. Avoids higher mountains, found in the peripheral humid areas around deserts and oases. Khan and Tasnim (1990) report that in Rohtas Fort, Punjab, Pakistan, *Hemidactylus brookii* is sympatric with *Cyrtopodion montiumsalsorum*, *Indogekko rohtasforta*i, *Hemidactylus flaviviridis* and *Hemidactylus persicus*.

Hemidactylus flaviviridis Rüppell, 1835—Yellow-bellied gecko



Type locality: Massaua Islands, Eritrea, northeastern Africa.

Color: Metachromatic, individuals exposed to light are greenish-gray with five distinct dark wavy crossbars on the dorsum and tail. The barred pattern fades with age, and is faint or absent in individuals living inside buildings, which are a uniform grayish-white. Belly is always yellowish.

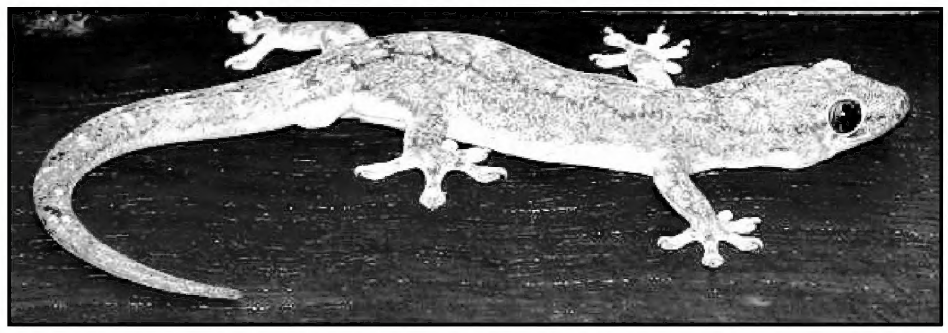
Range: Common house gecko, ranges widely throughout the Indo-Pakistan subcontinent. It extends to Red Sea along the

Table 1. Comparative morphology of the *Hemidactylus* species of Pakistan (+ = present; - = absent; all lengths in mm). Sources: Baha El Din (2005); Bauer et al. (2006); Carranza and Arnold (2012).

Character	***brookii***	***flaviviridis***	***frenatus***	***leschenaultii***	***persicus***	***triedrus***	***turcicus***	***robustus***
Snout–vent length	62–65	86–95	60–62	86–86	68–70	75–77	58–61	
Tail length	59–63	89–93	60–67	86–87	84–86	76–78	59–65	
Supralabials	8–10	12–15	10–12	10–12	10–12	8–10	7–10	8–11
Infralabials	7–9	10–14	8–10	8–10	8–10	7–8	6–9	7–9
Nasal / 1st labial in contact	+	+	+	+	+	-	+	
Dorsal tubercles Shape Arrangement	+ subtrihedral regular	very rare round irregular	few or absent round irregular	+ round, trihedral irregular	+ subtrihedral regular	+ subtrihedral regular	+ subtrihedral regular	+ round, keeled regular
Subdigital lamellae (4th toe)	6–10	12–15	9–10	9–11	11–15	7–10	9–15	8–11
Pores Precloacal Precloacal-femoral Medial separation	 6–9 - +	 - 8–15 -	 - 26–36 -	 - 10–17 +	 6–9 - -	 - 6–14 +	 2–10 - -	 6–7 - -
Tail Appearance Segmentation Tubercules	 subcylindrical distinct keeled, pointed	 strongly depressed indistinct conical	 subcylindrical indistinct pointed	 strongly depressed distinct pointed	 cylindrical distinct pointed	 subcylindrical indistinct keeled, pointed	 subcylindrical distinct pointed	 subcylindrical indistinct 1st 3–4 segments with a few pointed scales
Dorsal pattern	spotted	wavy crossbars	spots / stripes	crossbars	light & dark tubercles	saddles	spotted	mid-dorsum with oblique dark bars, lateral broken bars
Eye-to-temple stripe	+	-		+	+	+	+	
Ventral coloration	dirty white	yellow	white	dirty white	whitish	pale	dirty white	dirty white

coasts of Arabia and Iran, Pakistan, and India, Bangladesh, Sri Lanka and nearby islands, at elevations below 1000 m, always in association with human dwellings.

Hemidactylus frenatus Schlegel *in* Duméril and Bibron, 1836
Waif gecko



Type locality: Java, southeastern Asia.

Color: Dorsum grayish to pinkish, sometimes darker, with indistinct dark spots, sometimes arranged in stripes. The belly is white; tail sometimes red.

Range: A pantropic species; ranges from Japan, Polynesia, Australia, Asia, Africa, and the southern United States. In Pakistan it has a coastal distribution.

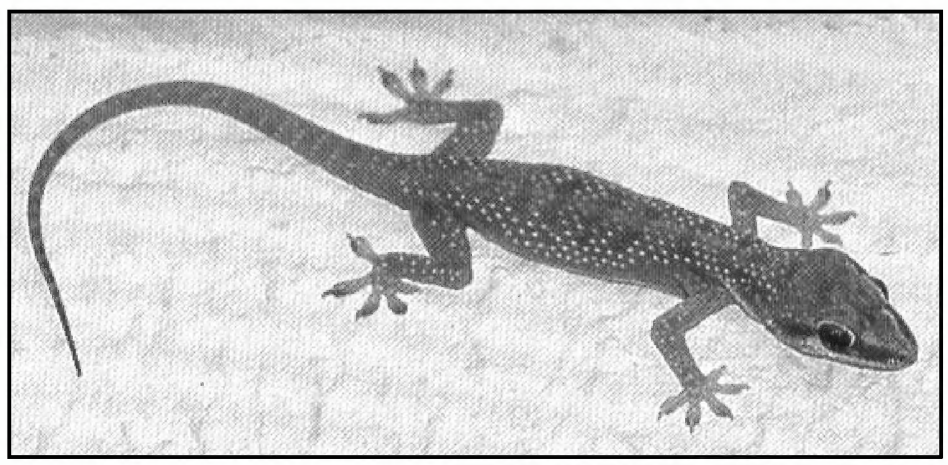
Hemidactylus leschenaultii Duméril and Bibron, 1836
Tree gecko

Type locality: Sri Lanka.

Color: Dorsum gray with dark brown crossbars or rhomboidal blotches. A dark streak from the eye to the flanks. Belly dirty white.

Range: From Assam (India), Bangladesh, eastern and southern India, along the western coast of India, and in Pakistan lower Sindh (including the lower Indus Delta), Las Bela and southern Balochistan regions, also reported from Oman.

Hemidactylus persicus Anderson, 1872—Persian gecko



Type locality: Shiraz, Persia.

Color: The dorsum is light brownish gray with irregularly scattered white, brown, or black spots, and rows of keeled tubercles. A dark stripe from the eye to the temporal region. The belly is whitish.

Range: From Saudi Arabia, southern Iran, and in Pakistan from Balochistan and Sindh northward to Waziristan. Recently it has also been reported in the southern Potohar Plateau, in central Punjab, Pakistan (Khan and Tasnim, 1990).

Hemidactylus robustus Heyden, 1827—Red Sea leaf-toed gecko

Type locality: Egypt, Arabia, Abyssinia

Color: Basic dorsal coloration pinkish brown, translucent. A series of dark spots arranged longitudinally along mid-dorsum, often indistinct. Tail with numerous irregular, narrow, dark bands.

Range: India, Pakistan, Egypt, Arabia, Ethiopia.

Hemidactylus triedrus (Daudin, 1802)—Blotched house gecko

Type locality: Unknown.

Color: Dorsum yellowish, with three large dark-brown saddles with narrow black borders; tail with dark rings. There are one or two yellow stripes behind the eye, and another on the nape. The belly is pale.

Range: From Sri Lanka through peninsular India to Karachi, Pakistan. It is known in coastal localities of the lower Indus Delta.

Hemidactylus turcicus (Linnaeus, 1758)—Mediterranean gecko

Type locality: Asian Turkey.

Color: The dorsum light brown, grayish, pale pink, or whitish, with black spots sometimes arranged in transverse rows. Tubercles in the spots are black; other tubercles are white. There is usually a dark streak from the eye. The belly is dirty white.

Range: Reported from West Indies, eastern Mexico, the southern United States, countries and islands around the Mediterranean, northern Africa, the Middle East, Iran, and Afghanistan. In Pakistan it has been reported in various coastal localities of Sindh. In the city of Karachi this gecko is found inside houses together with *Hemidactylus flaviviridis* (Minton, 1966).

Vocalization

Sound production is well known phenomenon within the family Gekkonidae (Marcellini, 1978; Böhme et al., 1985; Greer, 1989). As in other vertebrates sound production in geckos is associated with laryngeal specialization (Russell et al., 2000).

According to my observations geckos of the genus *Hemidactylus* and related genera vocalize on two occasions:

- When in distress or being handled, the gecko (male or female) struggles to be freed, emitting 2–3 short, faint, sharp squeaks, threatens with wide open mouth and voids excrement in a normal reflex (*Hemidactylus*, *Siwaligekko*, *Indogekko* and *Cyrtopodion*).
- A sexually active male gives a series of "such, such, suck" or "skhh, skhh, skhh, skhh," calls while courting and marking the territory (Khan, 2006).

However, contrary to the my observations over the past 40 years, birdlike chirping that could be heard at a distance of about 50 feet has been reported in *H. flaviviridis* (Mahendra, 1936; Minton, 1966). Parshad (1916) made no mention of vocalization in *H. flaviviridis*. Indraneil Das (personal communication, 2004) has never heard "chirping" in this species as described.

Technically a chirp is a short, sharp note, especially one produced by a bird or insect. Insects chirp by rubbing a sharp ridge on one wing against a series of wrinkles or "files" on the other. The pitch of the chirp depends on the distance between the wrinkles. However, a bird's chirp is produced in a special organ, the syrinx, located deep in the bird's neck, close to its lungs. High and low pitched notes are produced with opened or closed beak. In geckos the sound-producing organ is the larynx, located in the throat. High-pitched distress calls are uttered with the mouth open, low pitched grunts with the mouth closed.

In my opinion reports of chirping by *H. flaviviridis* most probably stem from occasions when a hidden house cricket (*Acheta domestica*) chirps and a hidden gecko is close by. Both creatures are active during summer, and hide under household articles. The insect's chirps are taken as that of the gecko.

Similarly, Anderson (1999: 153) records "whit-whit" calls from a place where he had earlier seen a gecko *Cyrtodactylus* (now *Cyrtopodion*) *agamuroides*, and attributes the calls to the lizard; he also attributes "tsh, tsh" notes to the geckos *Cyrtodactylus* (now *Tenuidactylus*) *sagittifer*. However, he never observed the lizards making these calls (personal communication, 2004). While in field in deserts of Pakistan, I myself have heard small thrushlike birds making "whit, whit" and "tsh, tsh" calls during evenings, in high grass areas!

M. L. Golubev used gecko calls to distinguish species of genus *Mediodactylus* from those of the genus *Tenuidactylus* (personal communication, June, 2004). Minton (1966: 87) describes the call of *Hemidactylus frenatus as* "a series of four or five loud, staccato notes similar to the sound of a coin tapped against a window pane," and that of *H. triedrus* as "a spitting sound" (page 85). Gallagher and Arnold (1988) described *H. turcicus* calling in short barks.

However, the loud "chuck-chuck-chuck" call attributed to *Hemidactylus brookii* by Daniel (1983) needs comment. A loud "chuck-chuck-chuck" call is characteristic of the common skittering pond frog, *Euphlyctis cyanophlyctis*. This frog may call from ponds and puddles during warm evenings in the subcontinent (Khan, 2006). The frog and *H. brookii* share such wetland habitats. The frog's calls are wrongly attributed to *H. brookii*, since no call is recorded for this gecko, except for the distress call reported above (Khan, 2006).

Persecution

In Pakistan geckos are not welcomed in houses. This is so despite the fact that they are beneficial to humans, in that they help to control common harmful insect pests, such as crickets, flies, ants, grasshoppers, etc. It is commonly believed that gecko skin carries germs that may harm humans. It is also thought that food may be poisoned if a gecko or its feces drop into it. Periodic house-cleanings regularly involve killing of geckos. The lizard's greatest offense—due to which it is widely killed—stems from a story that it punctured the goatskin bag in which water was being carried during the Battle of Karbala (Iraq) during early Muslim history.

Moreover, geckos fall prey to a variety of predators: scorpions, birds, lizards, snakes, frogs, other geckos, etc. Despite human wrath and high predation geckos are strongly holding on in human habitations.

Literature Cited

Anderson, S. C. 1999. The lizards of Iran. Ithaca, New York: Society for the Study of Amphibians and Reptiles, Contributions to Herpetology, Volume 15..

Baha El Din, S. M. 2005. An overview of Egyptian species of *Hemidactylus* (Gekkonidae), with the description of a new species from the high mountains of South Sinai. Zoology in the Middle East 34:11–26

Bauer, M. A., T. Jackman, E. Greenbaum and T. J. Papenfuss. 2006. Confirmation of the occurrence of *Hemidactylus robustus* Heyden, 1827 (Reptilia: Gekkonidae) in Iran and Pakistan. Zoology in the Middle East 39:59-62.

Böhme, W. R., R. Hutterer and W. Bings. 1985. Die Stimme der Lacertidae, speziell der Kanareneidechsen (Reptilia: Sauria). Bonner zoologische Beiträge 36(3/4):337-354.

Carranza, S., and E. N. Arnold. 2006. Systematics, biogeography, and evolution of *Hemidactylus* geckos (Reptilia: Gekkonidae) elucidated using mitochondrial DNA sequences. Molecular Phylogenetics and Evolution. 38(2):531-545.

Carranza, S., and E. N. Arnold. 2012. A review of the geckos of the genus *Hemidactylus* (Squamata: Gekkonidae) from Oman based on morphology, mitochondrial and nuclear data, with descriptions of eight new species. Zootaxa 3378:1-95.

Daniel, J. C. 1983. The book of Indian reptiles. Bombay Natural History Society.

Frankenberg, E., and Y. L. Werner. 1992. Vocal communication in the Reptilia. Facts and questions. Acta Zoológica Lilloana 41:45-62.

Gallagher, M. D., and E. N. Arnold. 1988. Reptiles and amphibians of the Wahiba Sands, Oman. Pp. 405-413. *In*: R. W. Dutton, editor, The scientific results of The Royal Geographical Society's Oman Wahiba Sands Project 1985-1987. Journal of Oman Studies, Special Report no. 3.

Greer, A. E. 1989. The biology and evolution of Australian lizards. Chipping Norton, NSW, Australia: Surrey Beatty & Sons.

Khan, M. S. 2006. Amphibians and reptiles of Pakistan. Malabar, Florida: Krieger Publishing Company.

Khan, M. S., and R. Tasnim. 1990. A new gecko of the genus *Tenuidactylus* from northeastern Punjab, Pakistan, and southwestern Azad Kashmir. Herpetologica 46(2):142-148.

Mahendra, B. C. 1936. Contribution to the bionomics, anatomy, reproduction and development of the Indian house-gecko, *Hemidactylus flaviviridis* Rüppell. Part 1. Proceedings of the Indian Academy of Sciences, Section B 4(3):250-281.

Marcellini, D. L. 1978. The acoustic behavior of lizards. Pp. 287-300. *In*: N. Greenberg and P. D. MacLean, editors, Behavior and neurology of lizards: An interdisciplinary colloquium. Rockville, Maryland: National Institute of Mental Health.

Mertens, R. 1969. Die Amphibien und Reptilien West-Pakistans. Stuttgarter Beiträge zur Naturkunde 197:1-96.

Minton, S. A., Jr. 1966. A contribution to the herpetology of West Pakistan. Bull. American Mus. Nat. Hist. 134(2):31-184.

Parshad, B. 1916. Some observations on a common house-lizard (*Hemidactylus flaviviridis*, Ruppell) of India. Journal of the Bombay Natural History Society 24(4):834-838.

Russell, A. P., D. R. Rittenhouse and A. M. Bauer. 2000. Laryngotracheal morphology of the Afro-Madagascan geckos: A comparative survey. Journal of Morphology 245(3):241-268.

Uetz, P., J. Hallermann and J. Hosek 2013. The reptile database. [http://reptile-database.reptarium.cz/advanced_search?genus=Hemidactylus&submit=Search]

Bull. Chicago Herp. Soc. 48(10):135-136, 2013

Notes on the Herpetofauna of Western Mexico 11: A Range Extension for the Mexican Dusky Rattlesnake, *Crotalus triseriatus*, in Jalisco, Mexico

Daniel Cruz-Sáenz [1], Erika Sugey García Mata [2] and David Lazcano [3]

Abstract

Crotalus triseriatus, a species whose distribution is restricted to the southern mountainous areas in the state of Jalisco, was found in the protected natural area "Bosque La Primavera," located next to the Guadalajara metropolitan area, at a lower elevation than previously reported in the literature.

Resumen

Crotalus triseriatus una especie cuya distribución se restringe a las zonas serranas del sur del estado de Jalisco, fue encontrada en el área natural protegida "Bosque La Primavera" que se encuentra próximo a la zona metropolitana de Guadalajara a una elevación menor a la reportada en la literatura.

Introduction

The *Crotalus triseriatus* species group of montane rattlesnakes is distributed from the southwestern United States to the Neovolcanic Belt in central Mexico (Bryson et al., 2010). These relatively small-bodied montane rattlesnakes inhabit the pine-oak forests of Mexico (Campbell and Lamar, 2004).

C. triseriatus is present in the Mexican states of Jalisco, Colima, Estado de México, Distrito Federal, and Morelos (Armstrong and Murphy, 1979). In the highlands of the Neovolcanic Belt *C. triseriatus* is found at altitudes of 2,500 to 4,572 m (Campbell and Lamar, 1989; 2004). This species is found in temperate forest, usually pine vegetation (Klauber, 1956)

Study site

The protected natural area "Bosque La Primavera" (Área de Protección de Flora y Fauna la Primavera) is adjacent to the metropolitan area of Guadalajara (Figure 1). The main vegetation type is oak forest.

Results

There are several records of *C. triseriatus* outside the volcanic belt at elevations above 2000 m (e.g., Tapalpa municipality: Rancho San Francisco, 1.5 km of Tapalpa 2103 m [Campbell, 1979]). We report this species for first time in the natural protected area, but the most interesting aspect of this record is the low elevation, 1552 m. The main vegetation type is oak forest and pine-oak forest. The specimen was relocated because it was found in an area frequented by tourists.

Figure 2. Mexican dusky rattlesnake, *Crotalus triseriatus*, as found on 19 August 2008 in the area of Río Caliente in the protected natural area "Bosque La Primavera."

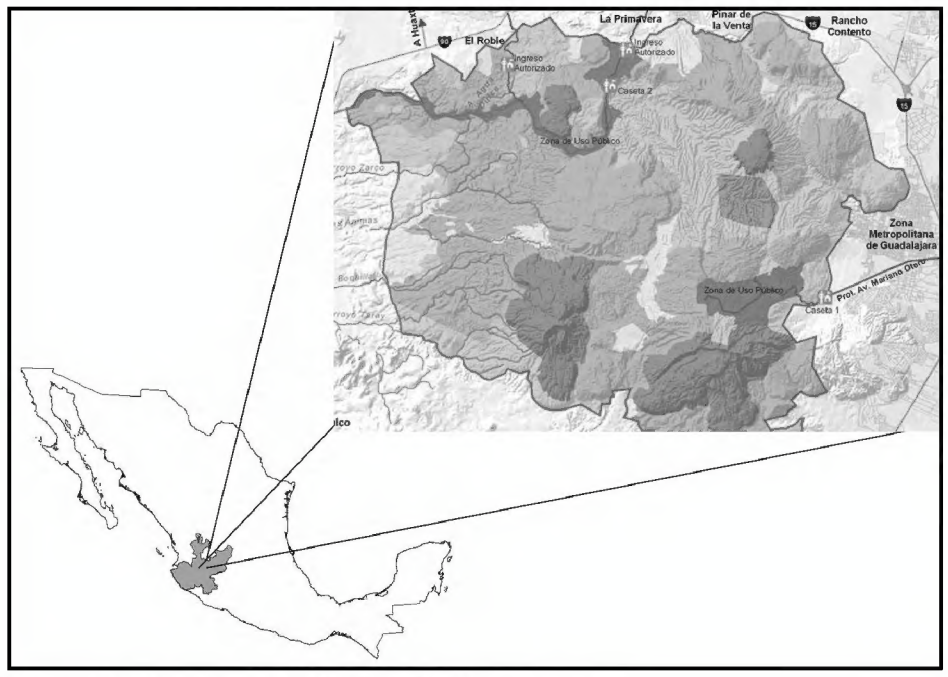


Figure 1. Location of "Bosque La Primavera."

Figure 3. Río Caliente, the thermal waters

1. Centro de Estudios en Zoología de la Universidad de Guadalajara. dcruzsaenz@gmail.com

2. Centro Universitario de Ciencias Biológicas y Agropecuarias. Universidad de Guadalajara.

3. Universidad Autónoma de Nuevo León, Facultad de Ciencias Biológicas, Laboratorio de Herpetología, Apartado Postal - 513, San Nicolás de los Garza, Nuevo León, C. P. 66450, México.

Literature Cited

Armstrong, B. L., and J. B. Murphy. 1979. The natural history of Mexican rattlesnakes. Museum of Natural History, University of Kansas, Special Publication Number 5.

Bryson, R. W., Jr., R. W. Murphy, A. Lathrop and D. Lazcano-Villareal. 2010. Evolutionary drivers of phylogeographical diversity in the highlands of Mexico: A case study of the *Crotalus triseriatus* species group of montane rattlesnakes. Journal of Biogeography DOI: 10.1111/j.1365-2699.2010.02431.x

Campbell, J. A. 1979. A new rattlesnake (Reptilia, Serpentes, Viperidae) from Jalisco, Mexico. Transactions of the Kansas Academy of Science 81(4).365-369.

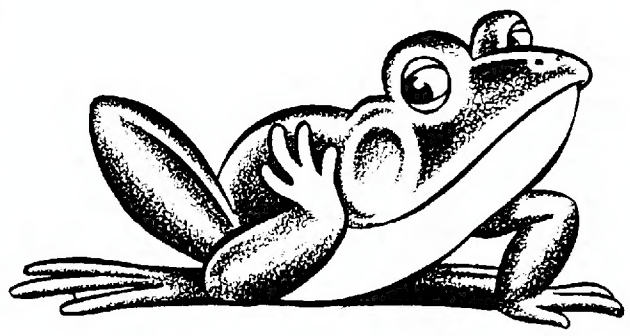
Campbell, J. A., and W. W. Lamar. 1989. The venomous reptiles of Latin America. Ithaca, New York: Cornell University Press.

Campbell, J. A., and W. W. Lamar. 2004. The venomous reptiles of the Western Hemisphere. Ithaca, New York: Cornell University Press.

Klauber, L. M. 1956. Rattlesnakes, their habits, life histories, and influence on mankind. Berkeley and Los Angeles: University of California Press.

Bull. Chicago Herp. Soc. 48(10):136, 2013

The Tympanum



Does anyone have a ultrasound "reader" and the expertise to detect the presence of testes and ovaries in western diamondback rattlesnakes (*Crotalus atrox*)? I am interested in determining the possible presence of both kinds of reproductive organs in a dozen specimens I have on hand that range between 1 to 5 feet in length. Note: FYI, some years ago when Dr. Jean Dubach was directing Brookfield Zoo's genetics lab we identified parthenogenesis in the Arafuran file snake (*Acrochordus arafurae*) which lead to an article by Dubach, Sajewicz and Pawley in *Herpetological Natural History* regarding the incident.

Here in Lincoln County, New Mexico, a year or so after the onset of the present drought in this part of the Chihuahuan Desert I found that the ratio of males to females appears to have gone up dramatically. For the last 3 years out of a total of 2 dozen rattlesnakes only one female has been identified (by morphology and probing). In spite of an apparent lack of females I have found 2 youngsters, one of them a yearling, this past summer.

Going back in time to about 30 years ago I had exhibited 2 adult male eastern diamondbacks (*Crotalus adamanteus*) in a large enclosure at Brookfield Zoo. Each male copulated with the other during the first year that they were in each other's company and consequently both developed necrotic hemipenes which had to be amputated. They survived the surgery and later (within one year) they each produced 1 or more living offspring plus some infertile ova.

This extraordinary event was never published. It is worth noting that in my attempt to locate any further information on the subject, Dr. George Rabb put me onto an article that had come out of Instututo Butantan some years before which reported incidents of hermaphroditism having been observed in less than 5% of snakes autopsied of the Genus *Crotalus* from that region of South America.

My question: During periods of extended drought is it possible that the incidence of hermaphrodism in otherwise "male" snakes goes up? At this time I have 6 specimens of *Crotalus atrox* that I would like to have "read" along with 4 *C. molossus* from the Sacramento/Capitan mountain locations. Depending on distance, I would be able to transport the animals to wherever a machine and technician could reliably read the sex of the animals. I would anesthetize the snakes prior to their being read. Ultimately I would like to positively determine the presence of both kinds of gonads in each snake without subjecting them to a surgical procedure.

I can be reached at: **raypawley@pvtnetworks.net**

Bull. Chicago Herp. Soc. 48(10):137, 2013

In fond remembrance of Ilene Sievert, who died December 16, 2012, this year we will reprint several of the essays that Ilene wrote for these pages between 1988 and 1993 under the rubric "Frog City." This one is from February 1993.

Frog City
by Ilene Sievert

X. House Music

In the outdoors one enjoys or endures what one must of animal noises; this is where they live. But in one's own home the repetitious sounds of animal creation, from within or out, may aggravate a sullen and grouchy soul. The very worst, recalled from student days, was an upstairs neighbor's female cat in the grip of sexual desire, a prolonged and agonizing desire cured by a vet. With more prosperous times and fancier animal, an afghan hound would commence barking and howling at 3 A.M. from an outdoor pen below our bedroom window. Impenetrable conscience and whole house air conditioning prevented the owner from hearing the dog. The next day when courteously informed of the disturbance disavowal was always made; they heard nothing and was I sure it was their dog? Be warned. A mother of young children can have very hateful thoughts about whatever deprives her of the few tattered rags of rest. Thereafter each time the dog awakened me, at whatever hour and for the however often time, the afghanner family was dialed, however many rings it took to get them, and pardon, but it appears your dog is barking. After three nights it was back to howling of my children only.

Many calls of birds are quite pleasant but some are annoying; the monotonous coo coo coo of doves, the endless grating chatter of multiple parakeets. The squawks and screams of the larger parrots surpass annoyance and have been known to saw the human brain into jagged fragments, probably causing more frequent occurrence of mental breakdown in the tropics and the dialect of Australians. On the other hand, the excitement of a clan of crows or tribe of jays, though the sounds are harsh, has the charm of a noisy bunch of kids playing ball. They pipe down when the incident of stimulus is over. Their sound rises and falls with events and can bring me running to the window to see what's happened.

It surprises me, with my irritable temper and intolerant attitude towards intrusive noise, how pleasant it is to hear in the privacy of home, the call of a frog. Call, singular, is apt as population size precludes choral works. The song itself is rarely lovely. Our only truly musical frog was Larry the bullfrog with a fine haroooooommmm like a bassoon in mezzo forte. He called in warm weather starting at about 9:30 P.M. with a longish concert of 4–5 calls, a rest, and a few repeats. The hotter weather brought encores later and later until he would wake us in the A.M. "Damn frog," Paul would mumble, roll over, and resume snoring, but with less timbre than Larry. On the opposite end of the range, peepers would give some fine shrill soprano notes like the peeps of the smallest wooden recorders. Most other species had variations on brack & quack. Tree frogs, wood and leopard frogs sang mostly in warm, but especially in wet weather, hushing if approached but betrayed by bubble throat, full and shiny or recently deflated with wrinkles like yesterday's birthday balloon. The worst bracker was a little paradox frog. He went BRAAACKKK! in triple forte and repeated until violent hands approached. I expostulated, exhorted and excoriated him till I was exhausted on how unbecoming it was for such a very small frog to make such a loud noise. I suggested that a female might be actually amused at the discrepancy between call and caller, but he just kept saying "BRAAACKKK, I feel great! Bring me a dame!" Since a dame paradox could not be obtained he had to spend summers in a much smaller tank from which he would not call. He was a precious dandy in gaudy striped pants. I suspect, proud fellow that he was, he did not care to invite a lady into such a small cheap apartment. Male mink frogs, also brackers, were more interesting, and therefore tolerable, as their calls were made in status competition among themselves, interactive call and response, rolling out their brrrrracks and punctuating with staccato barks. It was professional wrestling with splashes and croaks instead of thumps and grunts.

A visiting solitary crawfish frog, a male named Lumpy, had deep toned calls reminiscent of serious internal digestive disturbance. I am told a chorus is quite impressive. If a human guest was present when Lumpy called I was careful to remark that it was the frog that made that sound. Of course Lumpy when pointed out would then shut up and pretend it was me.

The most mysterious calling is a sound like the distant belling of hounds across miles of clear country air. I do not live anywhere near the country; the windows are closed. I live far from the Animal Shelter and farther from any kennel. The soft hoo hoos are from the fire-belly toads who vibrate their throats but don't have a visible sac. They call and answer each at a different pitch but all quietly and without consonants, a string of single notes per caller. Amplexus brings forth a soft trill from the individual whose inguinal area is clasped, a sound so sweet that one can't tell if it is protest or approval.

There are many "house calls" I've missed; the sweet trill of American toads and the loud tunnggg! of the green frog. The rude noise of a pig frog would go well with the intestine rumbling of the crawfish frog. Spare me the very loud tropical frogs which are probably in league with the parrots, but otherwise, give me more frog voices, especially good solid all-American anurans, more joyful than canaries.

It was all explained by my friend, Judith the Wise. We were having dinner of an evening in the same room as dwell the froggy guests. Despite human noise, the movements of several people around the room, the conversation and clack of utensils, a young *Hyla regilla* started singing. Again and again he called. The ladies smiled and gazed fondly while the gentlemen looked amused and embarrassed. "He has accomplished his purpose," she said. "He has attracted and pleased all the females with his song."

Unofficial Minutes of the CHS Board Meeting, September 13, 2013

The meeting was called to order at 7:44 P.M. at the Schaumburg Public Library. Board members Josh Baity, Stephanie Cappiello, Jim Foster and Cindy Steinle were absent.

Officers' Reports

Recording Secretary: The minutes of the August 16 board meeting were read, discussed and accepted.

Treasurer: The August treasurer's report was given, discussed, and accepted. We paid an insurance premium for a required auto liability policy. Andy has researched some options regarding the safety of our treasury. Options include obtaining fidelity coverage on the board members, and having board members receive daily email statements.

Membership Secretary: Numbers are holding at just under 500. The list of expiring memberships was read.

Publications Secretary: Aaron has added this year's January–June *Bulletin*s to the website.

Sergeant-at-arms: August meeting attendance was 47.

Committee Reports

Shows:
- Meet the Creek, Kiwanis Park, Brookfield, 12:30–4 P.M., September 14.
- Westmont Pet Promenade, September 14.
- Hike and Seek, National Wildlife Federation, Bemis Woods, Western Springs 12–3 P.M., September 28.
- Blessing of the Animals, Pullman, Noon, October 6.
- NARBC, Tinley Park, October 12–13.
- 3-in-one Expo, Arlington Park Racetrack, November 9–10.
- SEWERFest, November 10.

Old Business

Herps of Illinois exhibit: Comments on Erica's guidelines and Mike's edits were positive.

Junior Herpers: Thirty-five people attended the September meeting for Dan Bavirsha's talk! Mike Scott provided prizes for a coloring contest. Todd Gray, DVM, will speak in October, and Karen Furnweger from Shedd Aquarium in November.

Nominating Committee: will be meeting soon.

Meeting attendance: Erica is working on ideas to increase attendance, updating Facebook pages and Herp of the Month. John Archer suggested advertising that free parking is available.

New Business

Cage donations: The board discussed the possibility of donating cages to nature centers who house native animals for the Herps of Illinois exhibit at ReptileFest. These might feature our name and info about 'Fest.

Junior Herpers: The possibility of field trips was dicussed. Problems may occur with transportation and liability issues.

CHS 50th Anniversary 2016: Our 50th anniversary is coming up in 2016. Suggestions included a party, hosting the Midwest Symposium that year, and a commemorative poster.

Round Table

Dick Buchholz, at the August PNNM weekend, met a man from Louisville who does outreach programs.His daughter enjoyed the Junior Herpers meeting. Dick and Mike Scott visited him during a recent trip to the Louisville area

Jessica Tschampa's wedding is coming up in 2 weeks.

Mike Dloogatch received an email from one of the founding members of the CHS asking if he had copies of any early membership lists. He found one and she enjoyed reading through the list of members from the early days of the society. He has also been in touch with a previous president, Lori King, whose husband is seriously ill. Our thoughts are with Lori and Charlie at this difficult time and we wish them well.

Charles Schurman is waiting on baby Solomon Island tree boas.

Aaron just got new pygmy chameleons, really cool!

Jason had more baby snakes arrive—no CPR necessary this time!

The meeting was adjourned at 9:23 P.M.

Respectfully submitted by recording secretary Jenny Vollman

Advertisements

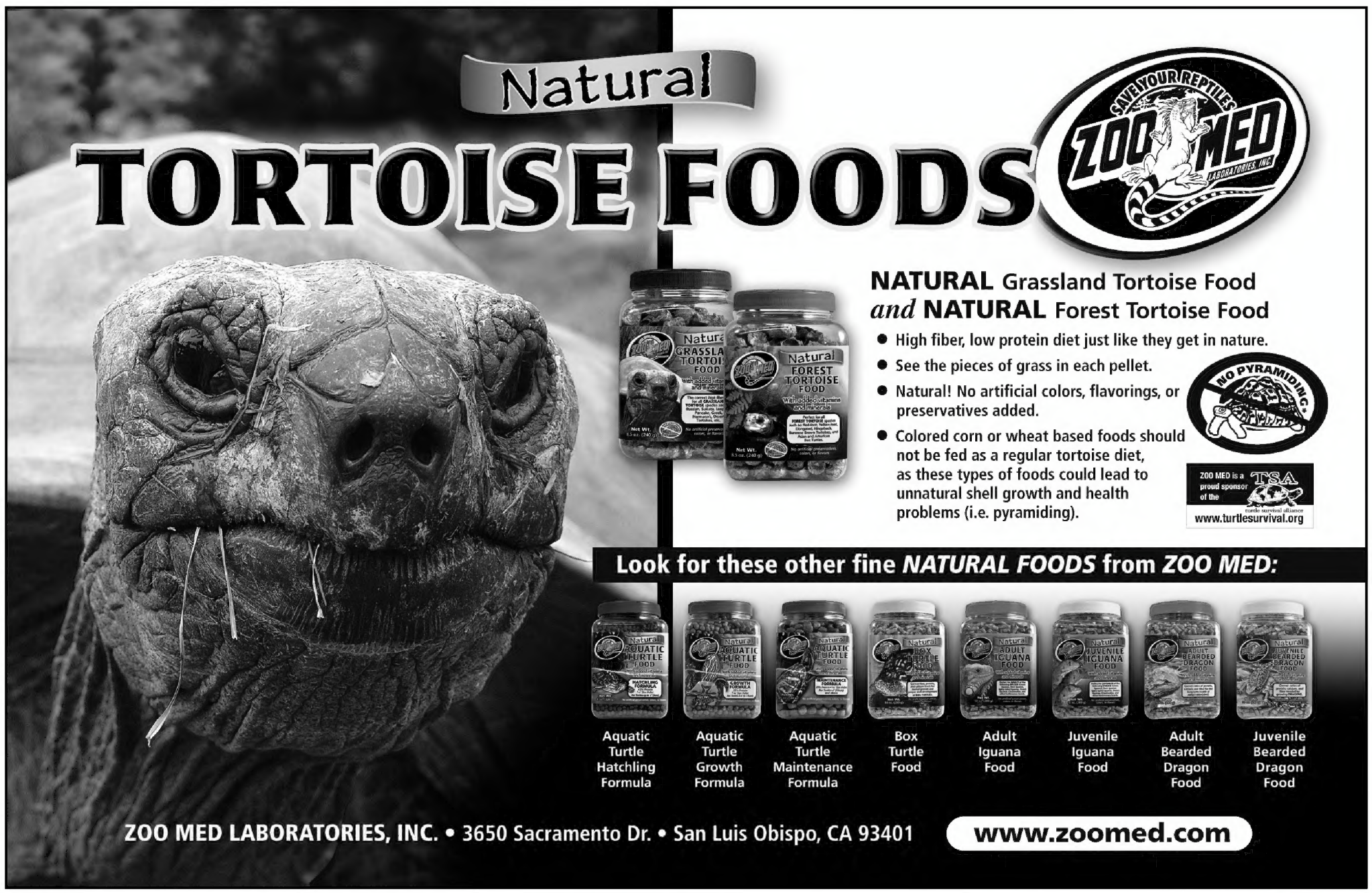
For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, PO Box 430, Newberry, FL 32669-0430, 352-472-9189, E-mail: GrmtRodent@aol.com.

For sale: **highest quality frozen rodents**. I have been raising rodents for over 30 years and can supply you with the highest quality mice available in the U.S. These are always exceptionally clean and healthy with no urine odor or mixed in bedding. I feed these to my own reptile collection exclusively and so make sure they are the best available. All rodents are produced from my personal breeding colony and are fed exceptional high protein, low fat rodent diets; no dog food is ever used. Additionally, all mice are flash frozen and are separate in the bag, not frozen together. I also have ultra low shipping prices to most areas of the U.S. and can beat others shipping prices considerably. I specialize in the smaller mice sizes and currently have the following four sizes available: Small pink mice (1 day old—1 gm) , $25 /100; Large pink mice (4 to 5 days old—2 to 3 gm), $27.50 /100; Small fuzzy mice (7 to 8 days old—5 to 6 gm) , $30/100; Large fuzzy mice / hoppers (10 to 12 days old—8 to 10 gm), $35/100 Contact Kelly Haller at 785-234-3358 or by e-mail at kelhal56@hotmail.com

For sale: High quality, all locally captive-hatched tortoises, all bred and hatched here in the upper midwest. Baby leopards, Sri Lankan stars, and pancakes usually available, and are all well-started and feeding great! Leopards are $125 ea., Sri Lankans (2012 hatched) $475 ea. And Pancakes are $195 ea. Leopards for out of state sale/shipping require a veterinary health certificate (inquire for cost). E-mail at KKranz1@wi.rr.com or call Jim or Kirsten at 262 654 6303.

Herp tours: **Costa Rica herping adventures**. Join a small group of fellow herpers for 7 herp-filled days. We find all types of herps, mammals, birds,and insects, but our target is snakes. We average 52 per trip, and this is our 10th year doing it. If you would like to enjoy finding herps in the wild and sleep in a bed at night with air-conditioning, hot water and only unpack your suitcase once, instead of daily, then this is the place to do it. Go to our web-site http://hiss-n-things.com and read the highlights of our trips. Read the statistics of each trip and visit the link showing photos of the 40 different species we have found along the way. E-mail at jim.kavney@gmail.com or call Jim Kavney, 305-664-2881.

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to mdloogatch@chicagoherp.org.


Natural
TORTOISE FOODS
SAVE YOUR REPTILES
ZOO MED
LABORATORIES, INC.
NATURAL Grassland Tortoise Food
and NATURAL Forest Tortoise Food
High fiber, low protein diet just like they get in nature.
See the pieces of grass in each pellet.
Natural! No artificial colors, flavorings, or preservatives added.
Colored corn or wheat based foods should not be fed as a regular tortoise diet, as these types of foods could lead to unnatural shell growth and health problems (i.e. pyramiding).
NO PYRAMIDING
ZOO MED is a proud sponsor of the
TSA
tortoise survival alliance
www.turtlesurvival.org
Look for these other fine NATURAL FOODS from ZOO MED:
Aquatic Turtle Hatchling Formula
Aquatic Turtle Growth Formula
Aquatic Turtle Maintenance Formula
Box Turtle Food
Adult Iguana Food
Juvenile Iguana Food
Adult Bearded Dragon Food
Juvenile Bearded Dragon Food
ZOO MED LABORATORIES, INC. • 3650 Sacramento Dr. • San Luis Obispo, CA 93401
www.zoomed.com

News and Announcements

2014 CHS HERPETOLOGICAL GRANTS PROGRAM

The mission of the Chicago Herpetological Society is education, conservation and the advancement of herpetology. To further this mission, the CHS provides grants of up to $1,000 in the following categories:

1. Illinois Herpetology
2. Graduate Student Research in Herpetology
3. Undergraduate Research in Herpetology
4. Conservation
5. Captive Management, Husbandry and Propagation

The number of grants awarded in each category will depend on the grant applications received; it is possible that not all categories will receive awards and some categories may receive more than one award. The Grants Committee reserves the right to reassign the category under which a given proposal is submitted.

To qualify for a grant, the applicant must be a member of the Chicago Herpetological Society as of December 31, 2013. In accepting a grant, the recipient agrees to acknowledge the Chicago Herpetological Society in any publications or public presentations of research funded by this grant. Further, the recipient agrees to abide by all state and federal laws.

Recipients must submit a short report of their research findings to the CHS within 6 months of their anticipated completion date. The report should be written for a general audience and be suitable for publication in the CHS *Bulletin* or on the CHS webpage. This requirement may be waived if results will be published in a peer-reviewed journal within a year. Recipients may be invited to present a program at a CHS general meeting.

Applications must include the following:

1. Project title
2. Applicant's name, address, phone and email
3. Submission category
4. Introduction—Provide background for the proposed work. Include a clear statement of the objectives of the proposed work.
5. Materials and methods—Describe the study site and the materials and methods (in non-technical terms) that will be used to accomplish the objectives of the proposed research. Attach plans, diagrams and maps as necessary. Indicate whether you have an approved Animal Care (IACUC) protocol covering the proposed methods or whether you will be submitting such a protocol.
6. Applicability and broader implications—How does this work apply to conservation, education and the advancement of herpetology?
7. Budget—Indicate the budget for the entire project and make clear what portion the CHS grant money would fund.
8. Anticipated completion date for the research
9. Applicant curriculum vitae
10. Letters of support—Student applicants must include a letter of support from a faculty advisor. For non-academic individual and institutional applicants, letters of support from collaborating partners or institutions are strongly encouraged. Letter(s) of support may be emailed and should include an address and phone number at which the writer can be contacted. Letter(s) of support may also be sent by postal mail.

Proposals should be submitted as email attachments. Attachments should include the applicant's name in the file name. Proposal text should not exceed five double-spaced pages (excluding literature cited, applicant's CV, and letters of support) and should be typed using a common font (e.g., Arial, Times, Courier) no smaller than 10pt. Applications must be received by December 31, 2013, and awards will be announced by February 15, 2014.

Proposals should be emailed to grants@chicagoherp.org

Questions should be directed to Mike Dloogatch (773) 588-0728, or grants@chicagoherp.org

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, October 30, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Jennifer Stabile**, amphibian conservation coordinator and senior keeper at the Albuquerque BioPark Zoo, will speak on "Conservation of the Mona Coqui (*Eleutherodactylus monensis*). In the heart of the Caribbean lies Mona Island, roughly halfway between Puerto Rico and Hispaniola. Mona is often referred to as the Galapagos of the Caribbean, and has been designated as a natural reserve by the government of Puerto Rico. The Mona Island coqui is a medium sized frog and is endemic to Mona. It is the least studied of the 17 Puerto Rican frogs of the genus *Eleutherodactylus*. An ex situ captive breeding program for *Eleutherodactylus monensis* was started in order to: (1) establish a captive assurance population; (2) learn about its reproductive biology; and (3) provide education and outreach opportunities for this unique species.

The November 27 meeting will include the annual election of officers and members-at-large of the CHS Board of Directors. The program for this meeting has not yet been decided.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby. Free parking is available in the walled-in area to the south of the loading dock ramp.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., November 15, in the adult meeting room on the second floor of the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the group's Facebook page.

THE ADVENTURES OF SPOT

Periodicals Postage
Paid at Chicago IL

CHICAGO HERPETOLOGICAL SOCIETY

Affiliated with the Chicago Academy of Sciences

2430 North Cannon Drive • Chicago, Illinois 60614